DOCUMENT RESUME

ED 288 936 UD 025 915

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TITLE Effective Schools Report. Final Evaluation Report.
INSTITUTION Columbus Public Schools, OH. Dept. of Evaluation Services.
PUB DATE Jul 87
NOTE 86p.
PUB TYPE Reports - Evaluative/Feasibility (142) -- Statistical Data (110)

EDRS PRICE MF01/PC04 Plus Postage.
DESCRIPTORS Academic Achievement; *Achievement Gains; Economically Disadvantaged; Educational Improvement; Elementary Secondary Education; Low Income; *Needs Assessment; *Parent School Relationship; *School Effectiveness; Scores; Social Differences; Urban Education
IDENTIFIERS *Columbus Public Schools OH

ABSTRACT

School improvements have been implemented in 27 schools in Columbus, Ohio, emphasizing the characteristics of effective schools. These characteristics include: (1) a sense of mission; (2) strong instructional leadership; (3) high expectations for students as well as school staff; (4) frequent monitoring of student progress; (5) a positive learning climate; (6) sufficient opportunity for learning to occur; and (7) parent/community involvement in the school program. A needs assessment was administered in 12 of the schools using a pretest/posttest design. Scores on standardized achievement tests were considered. Home-school relations was identified as a factor much in need of improvement. The change in reading comprehension scores from the pretest to the posttest was slightly greater than had been expected. The growth in mathematics computation ability was substantial. Pupils from lower income families tended to score lower in both subjects. Seventeen tables and 7 appendices present statistical data. (VM)

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FINAL EVALUATION REPORT

EFFECTIVE SCHOOLS REPORT

July, 1987

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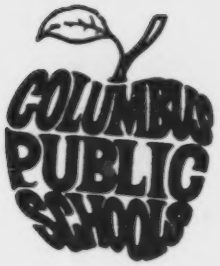

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Final Evaluation Report For 1986-87
Effective Schools Program

ABSTRACT

Program Description: Various school improvement efforts, which were implemented in a total of 27 Columbus schools during the period 1982-86, have continued at some schools during the 1986-87 school year. The goal of these efforts, as in the past, was to emphasize those factors which educational research has identified to be characteristic of effective schools, or schools in which all pupils regardless of socioeconomic background succeed in acquiring a mastery of basic skills, particularly in reading and mathematics. Effective schools are characterized by a sense of mission, strong instructional leadership, high expectations for students as well as school staff, frequent monitoring of pupil progress, a positive learning climate, sufficient opportunity for learning to occur, and parent/community involvement in the school program.

Time Interval: The effective schools effort coincided with the school year. The Needs Assessment Survey was administered during September, 1986. A pretest was administered in late September, 1986, and a posttest in early April, 1987. Students included in the pretest-posttest analysis must have taken both pretest and posttest in the same school and must have had a valid score on each.

Evaluation Design: The evaluation of the effective schools effort was accomplished by the administration of a locally developed Needs Assessment Survey, and a pretest-posttest of student achievement using the Comprehensive Tests of Basic Skills (CTBS; 1981) to answer the following evaluation questions:

1.1 What were the results of the Needs Assessment Survey?

2.1 How did students score on the standardized achievement tests in relation to the national norm group?

2.2 How did students of different socioeconomic status score on the standardized achievement tests in relation to the national norm group?

Major Findings: Six schools, four middle and two elementary, elected to administer the Needs Assessment Survey to teaching staff. The instrument, prepared by the Department of Evaluation Services, is based on seven factors considered characteristic of effective schools. While results varied from school to school, one factor in particular, home-school relations was identified by all staffs as an area where improvement was needed. This finding is consistent with earlier administrations of the survey in other schools during the last four year.

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Pretest-posttest scores in both reading and mathematics were obtained from nearly 8,400 pupils in grades 1-8 attending the 26 participating schools. Analyses of these scores, obtained from the Comprehensive Tests of Basic Skills (CTBS; 1981), showed the pupils' change in achievement was slightly greater than expected in Reading Comprehension. The growth in Mathematics Computation was substantial with 25.9% more of the pupils at grade level on the posttest than at grade level on the pretest. The comparable figure for Reading Comprehension was 2.8%. Analyses indicated that pupils from lower income families scored consistently lower in both reading and mathematics. This has been true for each of the five years that effective schools research has been conducted in the Columbus schools. In fact, the pattern of pupil growth in mathematics and reading, regardless of which standardized test was used, also has been consistent during the five year of effective schools research. The growth in pupil achievement as measured by NCE points and the percent of pupils at grade level from the fall pretest to the spring posttest has been consistently larger for mathematics than for reading. The following table summarizes the achievement gains for all pupils in reading and mathematics for the past five years. The reader is advised that the expected change between pretest and posttest is zero.

Table 1

Achievement Gains as Measured
by Change in NCE Points and Percent
of Pupils at Grade Level from Pretest
to Posttest in each Program Year

Program Year	Reading		Mathematics	
	Average NCE Change	% at Grade Level Change	Average NCE Change	% at Grade Level Change
1982-83	4.2	11.9	13.6	31.4
1983-84	4.9	11.7	10.8	23.4
1984-85	0.6	0.5	9.5	19.2
1985-86	2.9	3.1	12.7	25.8
1986-87	2.1	2.8	13.0	25.9

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INTERIM EVALUATION REPORT

EFFECTIVE SCHOOLS REPORT

An effective school, according to Edmonds (1982) and other educational researchers (Brookover 1978, 1982), is one in which all pupils succeed in acquiring a mastery of basic skills, regardless of the pupils' socioeconomic backgrounds. Effective schools have the following characteristics in common, according to the State Department of Education Division of Equal Educational Opportunities (1981):

1. A Sense of Mission
2. Strong Building Leadership
3. High Expectations for All Students and Staff
4. Frequent Monitoring of Student Progress
5. A Positive Learning Climate
6. Sufficient Opportunity for Learning
7. Parent/Community Involvement

The School Improvement Program (SIP) was implemented in a total of 27 Columbus schools during a four year period, from 1982 to 1986 (Appendix A). The goal of SIP was to improve the academic achievement of pupils in the basic skill areas, particularly in reading comprehension and mathematics computation, as well as to lessen the disparity in achievement levels between pupils of different socioeconomic backgrounds. Providing building level inservice programs related to the characteristics of effective schools was a key element in the program effort, as were yearly assessments of educational needs at each school, and the administration of a pretest and posttest at each school during the school year.

Although the SIP officially ended with the 1985-86 school year, school improvement efforts have continued at a number of schools (Appendix B). During the 1986-87 school year, six schools conducted a needs assessment during September, using the Needs Assessment Survey developed for the SIP by the Department of Evaluation Services. A total of 26 schools administered the Comprehensive Tests of Basic Skills (CTBS; 1981) as a pretest of student achievement during September, 1986. Seven schools administered the pretest because of their participation in the Urban Development Program, one because of participation in a Lazarus Quality School Grant, and 18 because the principal of the building requested the testing. In addition to these 26 schools, 60 pupils were tested at West High School as part of the Apple Classroom of Tomorrow (ACOT). The ACOT results are not included in this report. The Department of Evaluation Services provided technical assistance to the schools in the areas of providing and distributing necessary materials, collecting the resultant data, analyzing the data, and reporting the results to the schools.

Evaluation Design

The major findings from the administration of the Needs Assessment Survey (NAS) and the pretest-posttest of student achievement using the Comprehensive

Tests of Basic Skills (CTBS; 1981) are reported herein in response to the following evaluation questions:

1.1 Question: (NEEDS ASSESSMENT SURVEY)
What were the results of the Needs Assessment Survey?

2.1 Question: (STANDARDIZED ACHIEVEMENT TEST)
How did students score on the standardized achievement tests in relation to the national norm group?

2.2 Question: (STANDARDIZED ACHIEVEMENT TEST)
How did students of different socioeconomic status score on the standardized achievement tests in relation to the national norm group?

Major Findings

The following is a report on those activities that have received technical support services from the Department of Evaluation Services: 1.1 Needs Assessment Survey, 2.1-2.2 Standardized Achievement Test Administration.

1.1 Needs Assessment

School staff at six schools, four middle and two elementary, completed the Needs Assessment Survey (NAS) during the month of September, 1986. The NAS was prepared by the Department of Evaluation Services, based on an interview schedule developed and used by the Connecticut State Department of Education. The NAS, as used in the Columbus schools, consisted of 67 items, each having five response choices. The response choices for each item consisted of brief narrative descriptors, lettered "A" through "E" representing a continuum from less than ideal ("A") to ideal ("E"), where ideal represents a school environment or condition considered appropriate according to the literature of effective schools. The items composing the NAS are divided into seven categories or factors, each representing an important aspect of "effective schools," as shown in Table 1.

Table 1

NAS Items Composing Seven Effective Schools Factors

Factor	Item Nos.	No. of Items
1. Safe and Orderly Environment	1-5	5
2. Clear School Mission	6-16	11
3. Instructional Leadership	17-30	14
4. High Expectations	31-40	10
5. Opportunity to Learn and Time on Task	41-49	9
6. Frequent Monitoring of Student Progress	50-57	8
7. Home School Relations	58-67	10

Factor profiles were developed for each of the seven "effective schools" factors for: (a) each school staff responding to the survey; (b) the combined elementary school staffs responding to the survey (Appendix C); and (c) the combined middle school staffs responding to the survey (Appendix D).

After the survey was conducted, Evaluation Services processed and analyzed the data, preparing frequency distributions by item, factor profiles, and graphic representations of the factor profiles for each participating school. During October, 1986, Evaluation Services met with each principal to interpret the results and suggest possible ways to utilize the results. One possible way to use the results of the needs assessment would be to prepare a prioritized list of needs for the particular school in terms of the seven factors related to "effective schools." This would enable the staff at each school to develop an action plan tailored to their particular needs.

A frequency distribution of NAS respondents by position is summarized in Table 2 for middle schools, elementary schools, as well as for the combined total. As indicated in the table, a total of 178 staff members responded to the survey. Of this number, 126, or 70.8% were regular classroom teachers.

Table 2

Frequency Distribution and Percent of NAS Respondents by Position and Level

Position	Level				Total	
	Middle		Elementary			
	N	%	N	%	N	%
Principal or Asst. Principal	5	3.5	0	0	5	2.8
Regular Classroom Teacher	97	68.3	29	80.6	126	70.8
Certificated Staff (e.g. Special Ed., CLEAR, Counselor)	35	24.7	7	19.4	42	23.6
Other	5	3.5	0	0	5	2.8
Total	142	100%	36	100%	178	100%

An overall analysis of factor profiles for elementary schools (Appendix C) and middle schools (Appendix D) indicates that the majority of regular teacher responses were positive ("C" to "E"). At both the middle and elementary levels, factor profiles for Home-School Relations were less positive, with more than 40% of the responses in the "A" or "B" category. Item 60, regarding the low percentage of parents attending parent-teacher conferences, was an item receiving many lower ratings at both the elementary and middle school levels.

An analysis of individual school staff response to the NAS "effective schools" factors revealed much variability from school to school in terms of the percent of staff members from each school who gave a positive response (marked response choice D or E) to the items composing the seven "effective schools" factors. The percent of staff members at a school who marked the

Table 3

Needs Assessment Survey (NAS) Analysis:
Percent of Positive Responses for Each Elementary School by Factor, and
Percent Difference from Average Percent of Positive Responses of All Elementary Schools by Factor

	Factors													
	Safe Environment		Clear Mission		Instructional Leadership		High Expectations		Time on Task		Frequent Monitoring		Home-School Relations	
	1		2		3		4		5		6		7	
Elementary Schools	% Positive Response (D+E)	% Diff from Total	% Positive Response (D+E)	% Diff from Total	% Positive Response (D+E)	% Diff from Total	% Positive Response (D+E)	% Diff from Total	% Positive Response (D+E)	% Diff from Total	% Positive Response (D+E)	% Diff from Total	% Positive Response (D+E)	% Diff from Total
Medary	44	+09	74	+02	56	+03	52	+05	59	+03	70	-06	30	-0-
Windsor	25	-10	71	-01	47	-06	40	-07	52	-04	81	+05	30	-0-
Elementary School Total	35		72		53		47		56		76		30	

Table 4

Needs Assessment Survey (NAS) Analysis:
Percent of Positive Responses for Each Middle School by Factor, and
Percent Difference from Average Percent of Positive Responses of All Middle Schools by Factor

	Factors													
	Safe Environment		Clear Mission		Instructional Leadership		High Expectations		Time on Task		Frequent Monitoring		Home-School Relations	
	1		2		3		4		5		6		7	
Middle Schools	% Positive Response (D+E)	% Diff from Total	% Positive Response (D+E)	% Diff from Total	% Positive Response (D+E)	% Diff from Total	% Positive Response (D+E)	% Diff from Total	% Positive Response (D+E)	% Diff from Total	% Positive Response (D+E)	% Diff from Total	% Positive Response (D+E)	% Diff from Total
Beery	63	+17	63	+02	63	+22	43	+07	46	+01	78	+08	32	+05
Everett	46	-0-	51	-10	27	-14	32	-04	48	+03	73	+03	32	+05
Mohawk	49	+03	68	+07	40	-01	42	+06	42	-03	64	-06	22	-05
Starling	29	-17	60	-01	30	-11	28	-08	45	-0-	69	-01	25	-02
Middle School Total	46		61		41		36		45		70		27	

items positively within a factor was calculated for each elementary school, and then for all elementary schools. The difference between the percent positive response for each elementary school and the percent positive response for all elementary schools was then calculated. Those schools with a positive difference from the total of all elementary schools, had a greater percentage of positive response to a given factor than did elementary schools as a whole; those schools with a negative difference from the total of all elementary schools, had a smaller percentage of positive response to a given factor than did elementary schools as a whole. The results for elementary schools is summarized in Table 3, while the results for middle schools is summarized in Table 4. The same results for elementary schools are summarized graphically by factor in Appendix E, while the middle school results are summarized graphically by factor in Appendix F.

A review of Table 3 indicates, for example, that Medary staff members were more positive about their school in terms of "Safe Environment." Windsor staff members, on the other hand, were less positive on the factor "Safe Environment." Further review of Table 3 reveals the relative position of both elementary schools on the seven factors.

Similarly, a review of Table 4 indicates that Beery staff members were more positive about their school in terms of "Safe Environment," with a 17% difference, than the other middle schools. Starling staff members, on the other hand, were the least positive, with a -17% difference from the average middle school on the factor "Safe Environment." Further review of Table 4 reveals the relative position of each middle school on the seven factors, and how each school's percent of positive responses differs from the responses of all middle schools.

Pretest-Posttest Results

A major characteristic of effective schools is the monitoring of pupil achievement in the basic skill areas. As part of this process, the pupils in 26 schools were administered tests of basic mathematics and reading skills twice during the school year. The pretest was administered during the last week of September, 1986, and the posttest was administered during the first week of April, 1987.

The two reading tests and two mathematics tests from the Comprehensive Tests of Basic Skills (CTBS; 1981) were used for grades 1-8. The CTBS tests used were: Reading Vocabulary, Reading Comprehension, Mathematics Computation (not part of the test used to pretest first-graders), and Mathematics Concepts/Applications. The Word Attack test was also administered to pupils in grades 1-3. Form U of the test was used throughout all grade levels tested in the fall, as well as for grade 1 in the spring. Form V of the test was used in grades 3, 5, 6 and 8 for the posttest in the spring. At grades 2, 4 and 7 Customized Tests of Reading and Mathematics were used in the spring posttest. The customized tests provided estimates of performance on the appropriate CTBS tests. The levels and forms of the test used for each grade level, for both the pretest and the posttest, are summarized in Table 5. The levels and forms of the test used were the same for both the reading and mathematics tests.

It should be noted that the comprehension test of Level B, which was administered to first-graders in the fall, is an oral comprehension test. The comprehension test of Level C, which was administered to first-graders in the spring, is a reading comprehension test. Since these two tests represent different skills, caution should be used in interpreting the results for reading comprehension for first-graders. The best indicator for reading achievement for first-graders is the total reading score. Level B was used for grade 1 on the pretest because Level C reading tests, especially comprehension, proved too difficult for the first-graders at pretest time two years ago.

Table 5

CTBS Test Levels and Forms
by Grade Level

Grade	Pretest		Posttest	
	Level	Form	Level	Form
1	B	U	C	U
2	D	U	D*	V*
3	E	U	E	V
4	F	U	F*	V*
5	G	U	G	V
6	G	U	G	V
7	H	U	H*	V*
8	H	U	H	V

*Customized Tests of Reading and Mathematics provided estimates of performance on this CTBS test.

To be included in the evaluation sample a pupil had to have taken a pretest and posttest in the same school and had to have a valid score on both the pretest and the posttest. Also, pupils in kindergarten and special education classes were not included in the evaluation sample. Of the 10,350 pupils pretested, 8,354 (80.7%) met the selection criteria and were included in the evaluation sample.

The remainder of this report is a description of the pretest-posttest results. The reader is advised that the values in the change columns in Tables 7-17 may vary by one-tenth of a point from the values obtained from subtracting the pretest values from the posttest values. This variation is due to rounding and is not in error in computation. Also, in interpreting these results the reader should be aware of the types of scores used in carrying out the data analysis. First, the raw score is simply the number of items on which the pupil marked only the correct response. Second, the percentile (%ile) score indicates how the pupil's raw score compares with the raw scores of the pupils in the norming group. A percentile score of 70 indicates that the pupil did as well or better than 70% of the pupils in the norming group. The percentile is not an equal unit of measurement, but does provide comparative information regarding the pupil's performance. Third, the normal curve equivalent (NCE) is a standard score with a mean of 50 and a standard deviation of about 21. Unlike the percentile, the NCE is an equal unit of measurement. This means that the distance between any two points in the NCE distribution is the same

and represents the same amount of change (see Appendix G for the distribution of different types of scores). A major advantage of NCE scores is that arithmetic operations can be done with them. For example, pretest-posttest change scores can be computed and averaged. While percentile scores are used in this report, the NCE score represents the most accurate picture of pupil growth. The pretest-posttest analyses also provide the percent of pupils who scored at or above grade level and the percent of pupils who scored above the 36th percentile. The latter analysis was done to depict the percent of pupils considered to be far enough below grade level to require remediation according to ECIA Chapter 1 state guidelines.

Table 6 contains a summary of pretest, posttest, and change scores for the Word Attack Test (grades 1-3) for all participating schools reported by grade level. The data in Table 6 show that the total average growth in Word Attack skills for all pupils was greater than expected. While the expected NCE change for the normal school population is zero NCE points during the course of a school year, the total average change for participating schools was 4.1 NCE points. The greatest average gain in NCE points was achieved at grade 3 with 12.0 NCE points, while a slight loss was encountered at grade 1 with -1.3 NCE points. The average NCE score on the posttest was 45.7, whereas the norm group, or national average would be 50.0.

For the Word Attack Test, 29.4% of the pupils were at grade level on the pretest, while 42.1% of the pupils were at grade level on the posttest for a gain of 12.7%. Grade 3 showed the greatest increase in pupils at grade level from pretest to posttest with 29.5%, while grade 1 showed the smallest increase in pupils at grade level from pretest to posttest with 2.1%.

Table 7 contains a summary of pretest, posttest, and change scores for the Reading Vocabulary Test (grades 1-8) for all participating schools reported by grade level. The data in Table 7 show that the total average growth in Reading Vocabulary skills for all pupils was greater than expected. While the expected NCE change for the normal school population is zero NCE points during the course of a school year, the total average change for participating schools was 2.9 NCE points. The greatest average gain in NCE points was achieved at grade 4 with 6.7 NCE points, while a slight loss of -1.0 NCE points was encountered at grade 1. The average NCE score on the posttest was 47.4, whereas the norm group, or national average would be 50.0.

For the Reading Vocabulary Test, 35.0% of the pupils were at grade level on the pretest, while 42.8% of the pupils were at grade level on the posttest for a gain of 7.8%. Grade 4 showed the greatest increase in pupils at grade level from pretest to posttest with 12.4%, while grades 3 and 6 showed the smallest increases in pupils at grade level from pretest to posttest with 3.2%.

Table 8 contains a summary of pretest, posttest, and change scores for the Reading Comprehension Test (grades 1-8) for all participating schools reported by grade level. The data in Table 8 show that the total average growth in Reading Comprehension skills for all pupils was slightly greater than expected. While the expected NCE change for the normal school population is zero NCE points during the course of a school year, the total average change for participating schools was 2.1 NCE points. The greatest average gain in NCE points was achieved at grade 7 with 5.9 NCE points, while grades 2 and 5 showed losses of -0.5 and -0.8 NCE points respectively. The average NCE score on the posttest was 47.8, whereas the norm group, or national average would be 50.0.

TABLE 6

MEDIAN PERCENTILE, MEAN NORMAL CURVE EQUIVALENT,
PERCENT AT GRADE LEVEL, AND PERCENT ABOVE THE 36TH PERCENTILE
FOR THE POSTTEST, PRETEST, AND CHANGE SCORES FOR
CTBS WORD ATTACK (GRADES 1-3) REPORTED BY GRADE LEVEL

		<------ POST TEST ------>				<------ PRE TEST ------>				<----- CHANGE ------>		
GRADE LEVEL	NO. TESTED	MEDIAN %ILE	MEAN NCE	% AT GR. LV.	% ABOVE 36 %ILE	MEDIAN %ILE	MEAN NCE	% AT GR. LV.	% ABOVE 36 %ILE	MEAN NCE	% AT GR. LV.	% ABOVE 36 %ILE
1	701	36.0	42.9	34.5	47.6	34.0	44.2	32.4	47.1	-1.3	2.1	.6
2	625	36.0	43.4	39.0	49.1	29.0	42.4	33.8	45.6	1.0	5.3	3.5
3	713	52.0	50.5	52.2	71.4	30.0	38.5	22.7	45.3	12.0	29.5	26.1
TOTAL	2039	43.0	45.7	42.1	56.4	33.0	41.7	29.4	46.0	4.1	12.7	10.4

TABLE 7

MEDIAN PERCENTILE, MEAN NORMAL CURVE EQUIVALENT,
PERCENT AT GRADE LEVEL, AND PERCENT ABOVE THE 36TH PERCENTILE
FOR THE POSTTEST, PRETEST, AND CHANGE SCORES FOR
CTBS READING VOCABULARY (GRADES 1-8) REPORTED BY GRADE LEVEL

		<------ POST TEST ------>				<------ PRE TEST ------>				<----- CHANGE ------>		
GRADE LEVEL	NO. TESTED	MEDIAN %ILE	MEAN NCE	% AT GR. LV.	% ABOVE 36 %ILE	MEDIAN %ILE	MEAN NCE	% AT GR. LV.	% ABOVE 36 %ILE	MEAN NCE	% AT GR. LV.	% ABOVE 36 %ILE
1	714	40.0	44.5	37.8	51.1	38.0	45.6	32.9	59.4	-1.0	4.9	-8.3
2	545	43.0	48.7	45.0	55.6	34.0	46.3	38.0	48.4	2.4	7.0	7.2
3	710	35.0	42.4	35.9	48.6	33.0	40.9	32.7	43.4	1.4	3.2	5.2
4	1621	47.0	49.3	45.6	65.0	34.0	42.6	33.2	46.5	6.7	12.4	18.5
5	1540	46.0	49.4	47.6	64.2	41.0	46.9	39.5	56.0	2.5	8.1	8.2
6	1214	44.0	47.2	40.3	61.6	41.0	45.9	37.1	58.2	1.3	3.2	3.5
7	1036	46.0	48.1	43.1	65.0	36.0	42.9	30.9	48.3	5.2	12.3	16.7
8	956	43.0	45.4	41.1	58.2	38.0	44.0	34.5	51.5	1.4	6.6	6.7
TOTAL	8336	44.0	47.4	42.8	60.4	38.0	44.4	35.0	51.7	2.9	7.8	8.7

TABLE 8

MEDIAN PERCENTILE, MEAN NORMAL CURVE EQUIVALENT,
PERCENT AT GRADE LEVEL, AND PERCENT ABOVE THE 36TH PERCENTILE
FOR THE POSTTEST, PRETEST, AND CHANGE SCORES FOR
CTBS READING COMPREHENSION (GRADES 1-8) REPORTED BY GRADE LEVEL

		<------ POST TEST ------>				<------ PRE TEST ------>				<----- CHANGE ------>		
GRADE LEVEL	NO. TESTED	MEDIAN %ILE	MEAN NCE	% AT GR. LV.	% ABOVE 36 %ILE	MEDIAN %ILE	MEAN NCE	% AT GR. LV.	% ABOVE 36 %ILE	MEAN NCE	% AT GR. LV.	% ABOVE 36 %ILE
1	710	39.0	46.0	41.3	55.6	28.0	42.5	36.1	48.0	3.6	5.2	7.6
2	511	45.0	46.5	46.8	57.3	41.0	47.0	38.9	51.3	-.5	7.8	6.1
3	719	42.0	47.2	43.8	58.3	32.0	42.4	34.9	46.0	4.8	8.9	12.2
4	1602	46.0	48.3	43.4	64.4	41.0	47.2	41.4	55.6	1.0	2.1	8.8
5	1543	41.0	47.4	39.0	56.3	45.0	48.2	45.0	60.4	-.8	-6.0	-4.1
6	1221	39.0	46.7	37.9	55.6	38.0	43.4	35.9	50.5	3.2	2.0	5.2
7	1004	51.0	50.7	52.1	69.1	41.0	44.8	38.1	55.3	5.9	13.9	13.8
8	962	46.0	48.2	44.1	59.3	43.0	46.4	45.3	57.0	1.8	-1.2	2.3
TOTAL	8272	44.0	47.8	43.0	59.8	40.0	45.6	40.1	54.1	2.1	2.8	5.7

For the Reading Comprehension Test, 40.1% of the pupils were at grade level on the pretest, while 43.0% of the pupils were at grade level on the posttest for a gain of 2.8%. Grade 7 showed the greatest increase in pupils at grade level from pretest to posttest with 13.9%, while grades 5 and 8 showed decreases in pupils at grade level from pretest to posttest with -6.0% and -1.2% respectively.

Table 9 contains a summary of pretest, posttest, and change scores for Total Reading (grades 1-8) for all participating schools reported by grade level. The data in Table 9 show that the total average growth in Total Reading skills for all pupils was greater than expected. While the expected NCE change for the normal school population is zero NCE points during the course of a school year, the total average change for participating schools was 2.5 NCE points. The greatest average gain in NCE points was achieved at grade 7 with 5.7 NCE points, while average growth was achieved at grade 2 with 0.0 NCE points. The average NCE score on the posttest was 47.3, whereas the norm group, or national average would be 50.0.

For Total Reading, 36.3% of the pupils were at grade level on the pretest, while 41.0% of the pupils were at grade level on the posttest for a gain of 4.7%. Grade 7 showed the greatest increase in pupils at grade level from pretest to posttest with 11.8%, while grade 5 showed no increase in pupils at grade level from pretest to posttest with 0.0%.

Table 10 contains a summary of pretest, posttest, and change scores for the Mathematics Computation Test (grades 2-8) for all participating schools reported by grade level. The data in Table 10 show that the total average growth in Mathematics Computation skills for all pupils was greater than expected. While the expected NCE change for the normal school population is zero NCE points during the course of a school year, the total average change for participating schools was 13.0 NCE points. The greatest average gain in NCE points was achieved at grade 4 with 18.1 NCE points, while the smallest gain was achieved at grade 8 with 6.0 NCE points. The average NCE score on the posttest was 55.0, whereas the norm group, or national average would be 50.0.

For the Mathematics Computation Test, 33.7% of the pupils were at grade level on the pretest, while 59.6% of the pupils were at grade level on the posttest for a gain of 25.9%. Grade 5 showed the greatest increase in pupils at grade level from pretest to posttest with 33.7%, while grade 7 showed the smallest increase in pupils at grade level from pretest to posttest with 18.2%.

Table 11 contains a summary of pretest, posttest, and change scores for the Mathematics Concepts and Applications Test (grades 1-8) for all participating schools reported by grade level. The data in Table 11 show that the total average growth in Mathematics Concepts and Applications skills for all pupils was greater than expected. While the expected NCE change for the normal school population is zero NCE points during the course of a school year, the total average change for participating schools was 7.6 NCE points. The greatest average gain in NCE points was achieved at grade 1 with 13.2 NCE points, while grade 8 showed a small gain of 0.1 NCE points. The average NCE score on the posttest was 52.0, whereas the norm group, or national average would be 50.0.

For the Mathematics Concepts and Applications Test, 38.1% of the pupils were at grade level on the pretest, while 51.6% of the pupils were at grade level on the posttest for a gain of 13.5%. Grade 1 showed the greatest

TABLE 9

MEDIAN PERCENTILE, MEAN NORMAL CURVE EQUIVALENT,
PERCENT AT GRADE LEVEL, AND PERCENT ABOVE THE 36TH PERCENTILE
FOR THE POSTTEST, PRETEST, AND CHANGE SCORES FOR
CTBS TOTAL READING (GRADES 1-8) REPORTED BY GRADE LEVEL

		<------ POST TEST ------>				<------ PRE TEST ------>				<----- CHANGE ------>		
GRADE LEVEL	NO. TESTED	MEDIAN %ILE	MEAN NCE	% AT GR. LV.	% ABOVE 36 %ILE	MEDIAN %ILE	MEAN NCE	% AT GR. LV.	% ABOVE 36 %ILE	MEAN NCE	% AT GR. LV.	% ABOVE 36 %ILE
1	700	40.0	45.3	40.4	55.4	36.0	43.3	34.1	47.4	2.0	6.3	8.0
2	606	39.0	44.9	38.3	52.3	32.0	44.9	34.8	44.2	-.0	3.5	8.1
3	693	41.0	45.7	38.8	56.4	32.0	41.4	32.9	45.3	4.3	5.9	11.1
4	1626	45.0	48.3	42.3	65.4	38.0	45.1	38.1	53.0	3.2	4.1	12.4
5	1535	43.0	48.1	41.2	61.0	43.0	47.6	41.2	58.6	.5	.0	2.5
6	1203	41.0	46.9	38.9	57.4	38.0	44.5	33.7	52.9	2.4	5.2	4.5
7	1030	46.0	49.3	43.9	67.0	37.5	43.6	32.0	52.2	5.7	11.8	14.8
8	950	43.0	46.9	41.6	57.9	40.0	45.3	37.9	55.1	1.7	3.7	2.8
TOTAL	8343	43.0	47.3	41.0	60.3	38.0	44.8	36.3	52.4	2.5	4.7	7.9

TABLE 10

MEDIAN PERCENTILE, MEAN NORMAL CURVE EQUIVALENT,
PERCENT AT GRADE LEVEL, AND PERCENT ABOVE THE 36TH PERCENTILE
FOR THE POSTTEST, PRETEST, AND CHANGE SCORES FOR
CTBS MATH COMPUTATION (GRADES 2-8) REPORTED BY GRADE LEVEL

		<------ POST TEST ------>				<------ PRE TEST ------>				<---- CHANGE ------>		
GRADE LEVEL	NO. TESTED	MEDIAN %ILE	MEAN NCE	% AT GR. LV.	% ABOVE 36 %ILE	MEDIAN %ILE	MEAN NCE	% AT GR. LV.	% ABOVE 36 %ILE	MEAN NCE	% AT GR. LV.	% ABOVE 36 %ILE
2	504	61.0	54.8	67.1	78.2	37.0	46.5	36.9	55.4	8.3	30.2	22.8
3	725	46.0	48.4	49.7	55.4	24.0	35.8	25.0	38.1	12.6	24.7	17.4
4	1531	58.0	56.7	55.8	66.2	26.0	38.6	29.0	40.4	18.1	26.8	25.8
5	1544	63.5	57.1	65.2	74.2	36.0	43.0	31.4	46.2	14.1	33.7	28.0
6	1207	63.0	55.7	63.7	70.8	37.0	42.5	38.7	51.8	13.2	25.0	19.0
7	972	64.0	56.9	61.4	70.1	43.0	44.3	43.2	59.9	12.6	18.2	10.2
8	979	53.0	51.2	53.5	62.1	37.0	45.2	34.2	50.8	6.0	19.3	11.3
TOTAL	7462	60.0	55.0	59.6	68.3	35.0	42.0	33.7	48.1	13.0	25.9	20.2

TABLE 11

MEDIAN PERCENTILE, MEAN NORMAL CURVE EQUIVALENT,
PERCENT AT GRADE LEVEL, AND PERCENT ABOVE THE 36TH PERCENTILE
FOR THE POSTTEST, PRETEST, AND CHANGE SCORES FOR
CTBS MATH CONCEPTS & APPLICATIONS (GRADES 1-8) REPORTED BY GRADE LEVEL

		<------ POST TEST ------>				<------ PRE TEST ------>				<----- CHANGE ------>		
GRADE LEVEL	NO. TESTED	MEDIAN %ILE	MEAN NCE	% AT GR. LV.	% ABOVE 36 %ILE	MEDIAN %ILE	MEAN NCE	% AT GR. LV.	% ABOVE 36 %ILE	MEAN NCE	% AT GR. LV.	% ABOVE 36 %ILE
1	705	56.0	50.8	51.9	64.4	25.0	37.6	24.7	32.5	13.2	27.2	31.9
2	639	44.0	49.8	44.9	58.1	37.0	43.5	35.2	53.8	6.3	9.7	4.2
3	720	46.0	49.0	42.8	62.4	34.0	41.3	33.9	47.5	7.8	8.9	14.9
4	1548	51.0	56.1	51.7	69.9	41.0	44.9	39.3	55.5	11.2	12.3	14.4
5	1534	56.0	52.4	58.6	71.1	46.0	47.7	43.8	64.0	4.7	14.8	7.1
6	1206	51.0	51.0	53.6	67.7	42.0	44.1	39.3	54.3	6.9	14.3	13.3
7	1019	58.0	55.7	60.5	76.2	43.0	44.5	33.6	58.6	11.2	26.9	17.6
8	983	44.0	47.0	39.7	57.1	42.0	46.8	45.3	57.3	.1	-5.6	-.2
TOTAL	9354	51.0	52.0	51.6	67.0	41.0	44.5	38.1	54.7	7.6	13.5	12.3

increase in pupils at grade level from pretest to posttest with 27.2%, while grade 8 showed a decrease in pupils at grade level from pretest to posttest with -5.6%.

Table 12 contains a summary of pretest, posttest, and change scores for Total Mathematics (grades 2-8) for all participating schools reported by grade level. The data in Table 12 show that the total average growth in Total Mathematics skills for all pupils was greater than expected. While the expected NCE change for the normal school population is zero NCE points during the course of a school year, the total average change for participating schools was 10.5 NCE points. The greatest average gain in NCE points was achieved at grade 4 with 15.4 NCE points, while grade 8 showed a small gain of 3.5 NCE points. The average NCE score on the posttest was 53.6, whereas the norm group, or national average would be 50.0.

For Total Mathematics, 35.3% of the pupils were at grade level on the pretest, while 55.5% of the pupils were at grade level on the posttest for a gain of 20.2%. Grade 5 showed the greatest increase in pupils at grade level from pretest to posttest with 26.8%, while grade 8 showed the smallest gain in pupils at grade level from pretest to posttest with 6.6%.

A major theme of most of the literature on effective schools is that a school is effective if the economically disadvantaged pupils in the school learn the basic skills to the same extent as pupils not economically disadvantaged. Analyses of the pretest-posttest data were made to determine the degree to which the achievement gains of pupils in the school district subsidized lunch program were comparable to the gains of pupils not in the lunch program. A pupil whose Student Master File record indicated that the pupil was receiving either a free or reduced price lunch was included in the subsidized lunch group. The achievement gains of these pupils were compared with the gains of pupils not involved in the subsidized lunch program.

Tables 13 and 15 contain a summary of the pretest, posttest, and change scores for the CTBS Total Reading Test (grades 1-8) reported by subsidized lunch category. Of the 8,343 pupils tested, 71.5% (5,965) were counted in the subsidized lunch category. At each grade level, for both the pretest and the posttest, the mean NCE was lower for the pupils in the subsidized lunch category. At many grade levels the difference between the means for the two categories was substantial. The difference between the percent at or above grade level and the percent above the 36th percentile for the two categories was consistently in the same direction as the NCE results.

When pretest-posttest change was compared, mean NCE change was found to be slightly larger for the pupils in the subsidized lunch category in all grades but 6. Based upon the data contained in Tables 13 and 15 pupils in the subsidized lunch category tended to: (a) score lower on the pretest; (b) score lower on the posttest; and (c) show slightly greater growth between the pretest and the posttest.

Tables 14 and 16 contain a summary of the pretest, posttest, and change scores for the CTBS Total Mathematics Test (grades 2-8) reported by subsidized lunch category. Of the 7,661 pupils tested, 71.5% (5,483) were counted in the subsidized lunch category. At each grade level, for both the pretest and the posttest, the mean NCE was lower for the pupils in the subsidized lunch category. The difference between the percent at or above grade level and the difference between the percent above the 36th percentile for the two categories

TABLE 12

MEDIAN PERCENTILE, MEAN NORMAL CURVE EQUIVALENT,
PERCENT AT GRADE LEVEL, AND PERCENT ABOVE THE 36TH PERCENTILE
FOR THE POSTTEST, PRETEST, AND CHANGE SCORES FOR
CTBS TOTAL MATHMATICS (GRADES 2-8) REPORTED BY GRADE LEVEL

		<------ POST TEST ------>				<------ PRE TEST ------>				<----- CHANGE ------>		
GRADE LEVEL	NO. TESTED	MEDIAN %ILE	MEAN NCE	% AT GR. LV.	% ABOVE 36 %ILE	MEDIAN %ILE	MEAN NCE	% AT GR. LV.	% ABOVE 36 %ILE	MEAN NCE	% AT GR. LV.	% ABOVE 36 %ILE
2	625	52.0	51.9	53.0	65.8	37.0	44.8	34.2	50.4	7.2	18.7	15.4
3	712	45.5	48.7	46.3	59.8	30.0	38.3	29.9	42.3	10.4	16.4	17.6
4	1606	52.0	55.3	52.6	66.3	31.0	39.9	28.7	43.2	15.4	23.8	23.0
5	1530	60.0	55.6	63.3	74.7	40.0	44.7	36.5	53.4	11.0	26.8	21.3
6	1192	60.0	54.9	62.2	73.2	41.0	44.7	40.6	54.7	10.2	21.6	18.5
7	1024	56.0	55.2	59.4	72.9	40.0	44.1	40.2	56.8	11.1	19.2	16.1
8	970	45.0	49.0	43.9	60.7	40.0	45.6	37.3	56.2	3.5	6.6	4.5
TOTAL	7661	55.0	53.6	55.5	68.6	37.0	43.1	35.3	51.0	10.5	20.2	17.6

TABLE 13

MEAN NCE, PERCENT AT GRADE LEVEL AND PERCENT ABOVE 36TH PERCENTILE FOR THE POSTTEST, PRETEST AND CHANGE SCORES FOR CTBS TOTAL READING TEST (GRADES 1-8)
REPORTED BY SUBSIDIZED LUNCH CATEGORY WITHIN GRADE LEVEL

GRADE LEVEL	SUBSIDIZED LUNCH	NO. TESTED	POSTTEST MEAN NCE	POSTTEST % AT GR. LV.	POSTTEST % ABOVE 36 %ILE	PRETEST MEAN NCE	PRETEST % AT GR. LV.	PRETEST % ABOVE 36 %ILE	CHANGE MEAN NCE	CHANGE % AT GR. LV.	CHANGE % ABOVE 36 %ILE
1	YES	491	41.9	33.6	49.7	39.4	24.8	39.1	2.5	8.8	10.6
	NO	209	53.2	56.5	68.9	52.3	56.0	67.0	.8	.5	1.9
GRADE TOTAL		700	45.3	40.4	55.4	43.3	34.1	47.4	2.0	6.3	8.0
2	YES	416	40.9	29.8	45.7	40.6	26.4	35.8	.3	3.4	9.9
	NO	190	53.5	56.8	66.8	54.4	53.2	62.6	-.9	3.7	4.2
GRADE TOTAL		606	44.9	38.3	52.3	44.9	34.8	44.2	-.0	3.5	8.1
3	YES	520	42.9	31.2	49.6	38.1	24.0	37.5	4.8	7.1	12.1
	NO	173	54.3	61.8	76.9	51.3	59.5	68.8	3.0	2.3	8.1
GRADE TOTAL		693	45.7	38.8	56.4	41.4	32.9	45.3	4.3	5.9	11.1
4	YES	1209	45.8	34.9	59.8	41.5	31.0	46.1	4.3	3.9	13.7
	NO	417	55.4	63.5	81.8	55.4	58.8	73.1	-.1	4.8	8.6
GRADE TOTAL		1626	48.3	42.3	65.4	45.1	38.1	53.0	3.2	4.1	12.4
5	YES	1135	45.1	33.7	53.6	44.1	33.6	52.4	.9	.2	1.1
	NO	400	56.8	62.5	82.3	57.3	63.0	76.0	-.5	-.5	6.2
GRADE TOTAL		1535	48.1	41.2	61.0	47.6	41.2	58.6	.5	-.0	2.5
6	YES	864	44.1	32.2	50.7	41.8	28.0	45.9	2.3	4.2	4.7
	NO	339	54.0	56.0	74.3	51.3	48.4	70.5	2.7	7.7	3.8
GRADE TOTAL		1203	46.9	38.9	57.4	44.5	33.7	52.9	2.4	5.2	4.5
7	YES	711	47.4	37.3	62.0	41.5	27.0	46.4	5.9	10.3	15.6
	NO	319	53.5	58.6	78.1	48.4	43.3	65.2	5.1	15.4	12.9
GRADE TOTAL		1030	49.3	43.9	67.0	43.6	32.0	52.2	5.7	11.8	14.8
8	YES	619	44.3	35.4	52.5	42.4	32.3	49.8	1.9	3.1	2.7
	NO	331	51.9	53.2	68.0	50.7	48.3	65.0	1.2	4.8	3.0
GRADE TOTAL		950	46.9	41.6	57.9	45.3	37.9	55.1	1.7	3.7	2.8
TOTAL		8343	47.3	41.0	60.3	44.8	36.3	52.4	2.5	4.7	7.9

TABLE 14

MEAN NCE, PERCENT AT GRADE LEVEL AND PERCENT ABOVE 36TH PERCENTILE FOR THE POSTTEST, PRETEST AND CHANGE SCORES FOR CTBS TOTAL MATHEMATICS TEST (GRADES 2-8) REPORTED BY SUBSIDIZED LUNCH CATEGORY WITHIN GRADE LEVEL

GRADE LEVEL	SUBSIDIZED LUNCH	NO. TESTED	POSTTEST MEAN NCE	POSTTEST % AT GR. LV.	POSTTEST % ABOVE 36 %ILE	PRETEST MEAN NCE	PRETEST % AT GR. LV.	PRETEST % ABOVE 36 %ILE	CHANGE MEAN NCE	CHANGE % AT GR. LV.	CHANGE % ABOVE 36 %ILE
2	YES	434	48.4	46.5	61.1	42.1	27.4	45.6	6.3	19.1	15.4
	NO	191	60.0	67.5	76.4	50.9	49.7	61.3	9.1	17.8	15.2
GRADE TOTAL		625	51.9	53.0	65.8	44.8	34.2	50.4	7.2	18.7	15.4
3	YES	540	45.1	39.1	54.1	34.7	21.9	34.6	10.4	17.2	19.4
	NO	172	60.0	69.2	77.9	49.6	55.2	66.3	10.4	14.0	11.6
GRADE TOTAL		712	48.7	46.3	59.8	38.3	29.9	42.3	10.4	16.4	17.6
4	YES	1192	51.6	46.0	60.5	36.4	22.4	37.1	15.2	23.6	23.4
	NO	414	65.9	71.5	82.9	50.0	46.9	60.9	15.8	24.6	22.0
GRADE TOTAL		1606	55.3	52.6	66.3	39.9	28.7	43.2	15.4	23.8	23.0
5	YES	1129	52.2	57.0	69.8	41.9	30.0	46.8	10.4	27.0	23.0
	NO	401	65.3	81.0	88.5	52.5	54.9	72.1	12.8	26.2	16.5
GRADE TOTAL		1530	55.6	63.3	74.7	44.7	36.5	53.4	11.0	26.8	21.3
6	YES	851	52.0	57.2	69.9	42.5	35.7	50.1	9.5	21.5	19.9
	NO	341	61.9	74.5	81.5	50.1	52.8	66.3	11.8	21.7	15.2
GRADE TOTAL		1192	54.9	62.2	73.2	44.7	40.6	54.7	10.2	21.6	18.5
7	YES	709	53.6	55.7	70.7	42.8	36.8	53.9	10.8	18.9	16.8
	NO	317	58.7	67.5	77.9	46.9	47.6	63.4	11.8	19.9	14.5
GRADE TOTAL		1026	55.2	59.4	72.9	44.1	40.2	56.8	11.1	19.2	16.1
8	YES	628	47.1	39.6	57.3	43.2	31.7	51.1	3.9	8.0	6.2
	NO	342	52.7	51.8	67.0	49.9	47.7	65.5	2.8	4.1	1.5
GRADE TOTAL		970	49.0	43.9	60.7	45.6	37.3	56.2	3.5	6.6	4.5
TOTAL		7661	53.6	55.5	68.6	43.1	35.3	51.0	10.5	20.2	17.6

TABLE 15

MEAN NORMAL CURVE EQUIVALENT, PERCENT AT GRADE LEVEL,
AND PERCENT ABOVE THE 36TH PERCENTILE
FOR THE POSTTEST, PRETEST, AND CHANGE SCORES FOR
CTBS TOTAL READING (GRADES 1-8)
REPORTED BY SUBSIDIZED LUNCH CATEGORY

		<----- POSTTEST ------>			<----- PRETEST ------>			<----- CHANGE ------>		
SUBSIDIZED LUNCH	NO. TESTED	MEAN NCE	% AT GR. LV.	% ABOVE 36 %ILE	MEAN NCE	% AT GR. LV.	% ABOVE 36 %ILE	MEAN NCE	% AT GR. LV.	% ABOVE 36 %ILE
YES	5965	44.5	33.8	54.1	41.6	29.3	45.6	2.9	4.5	8.4
NO	2378	54.2	58.9	75.7	52.9	53.8	69.3	1.4	5.1	6.3
TOTAL	8343	47.3	41.0	60.3	44.8	36.3	52.4	2.5	4.7	7.9

TABLE 16

MEAN NORMAL CURVE EQUIVALENT, PERCENT AT GRADE LEVEL,
AND PERCENT ABOVE THE 36TH PETRENTILE
FOR THE POSTTEST, PRETEST, AND CHANGE SCORES FOR
CTBS TOTAL MATHEMATICS (GRADES 2-8)
REPORTED BY SUBSIDIZED LUNCH CATEGORY

		<------ POSTTEST ------>			<------ PRETEST ------>			<------ CHANGE ------>	
SUBSIDIZED LUNCH	NO. TESTED	MEAN NCE	% AT GR. LV.	% ABOVE 36 %ILE	MEAN NCE	% AT GR. LV.	% ABOVE 36 %ILE	MEAN NCE	% AT GR. LV.	% ABOVE 36 %ILE
YES	5483	50.6	49.9	64.2	40.4	29.3	45.3	10.3	20.6	18.9
NO	2178	61.1	69.5	79.5	50.1	50.4	65.3	11.0	19.1	14.2
TOTAL	7661	53.6	55.5	68.6	43.1	35.3	51.0	10.5	20.2	17.6

was consistently in the same direction as the NCE results.

When pretest-posttest change was compared, the mean NCE was found to be larger for the pupils not in the subsidized lunch category in all grades but 3 and 8. Based on the data contained in Tables 14 and 16, pupils in the subsidized lunch category tended to: (a) score lower on the pretest; (b) score lower on the posttest; and (c) show slightly less growth between the pretest and the posttest.

Summary

Activities related to the effective schools effort for the 1986-87 school year included the following:

1. Six schools, four middle and two elementary, elected to administer the Needs Assessment Survey to teaching staff. The instrument, prepared by the Department of Evaluation Services, is based on seven factors considered characteristic of effective schools. While results varied from school to school, one factor in particular, home-school relations was identified by all staffs as an area where improvement was needed. This finding is consistent with earlier administrations of the survey in other schools during the last four years.

2. Pretest-posttest scores in both reading and mathematics were obtained from nearly 8,400 pupils in grades 1-8 attending the participating schools. Analyses of these scores, obtained from the Comprehensive Tests of Basic Skills (CTBS; 1981), showed the pupils' change in achievement was slightly greater than expected in Reading Comprehension. The growth in Mathematics Computation was substantial with 25.9% more of the pupils at grade level on the posttest than at grade level on the pretest. The comparable figure for Reading Comprehension was 2.8%. Analyses indicated that pupils from lower income families continued to score consistently lower in both reading and mathematics. This has been true for each of the five years that effective schools research has been in the Columbus schools. In fact, the pattern of pupil growth in mathematics and reading, regardless of which standardized test was used, also has been consistent during the five years of effective schools research. The growth in pupil achievement as measured by NCE points and the percent of pupils at grade level from the fall pretest to the spring posttest has been consistently larger for mathematics than for reading. Table 17 summarizes the achievement gains for all pupils in reading and mathematics for each of the five years that effective schools research has been conducted.

Table 17

Achievement Gains as Measured
by Change in NCE Points and Percent
of Pupils at Grade Level from Pretest
to Posttest in each Program Year

Program Year	Reading		Mathematics	
	Average NCE Change	% at Grade Level Change	Average NCE Change	% at Grade Level Change
1982-83	4.2	11.9	13.6	31.4
1983-84	4.9	11.7	10.8	23.4
1984-85	0.6	0.5	9.5	19.2
1985-86	2.9	3.1	12.7	25.8
1986-87	2.1	2.8	13.0	25.9

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Appendices

A. Schools Participating in SIP 1982-1986

B. Schools Participating in School-Wide Testing

C. NAS Factor Profiles for Elementary Schools

D. NAS Factor Profiles for Middle Schools

E. Graphs of NAS Factor Profiles for Elementary Schools

F. Graphs of NAS Factor Profiles for Middle Schools

G. Comparison of Various Scores to the Normal Curve

Appendix A

Schools Participating in SIP 1982-1986

Schools Participating in SIP
1982-1986

Sch. Code	School Name	School Year 82-83	83-84	84-85	85-86
132	Crestview MS			X	X
148	Eastmoor MS		X		
202	Linmoor MS			X	X
225	Mohawk MS		X	X	X
242	Starling MS		X	X	
254	Wedgewood MS	X	X	X	
324	Beck ES		X	X	X
394	Devonshire ES			X	
410	East Linden ES		X	X	X
412	Eastgate ES		X	X	
414	Easthaven ES		X	X	
424	Fair ES	X	X	X	
428	Fairmoor ES		X	X	
468	Gladstone ES		X	X	
478	Heyl ES			X	X
481	Highland ES			X	X
502	Kent ES		X	X	X
510	Koebel ES			X	X
525	Linden ES			X	X
545	Medary ES		X	X	X
583	Pilgrim ES			X	X
591	Reeb ES		X	X	X
595	Salem ES		X	X	
607	Second ES			X	
645	Trevitt ES	X	X	X	X
662	West Broad ES	X	X	X	
674	Windsor ES	X	X	X	X

Appendix B

Schools Participating in School-Wide Testing

1986-87
Schools Participating in School-Wide Testing

Sch. Code	School Name	Grades	Phone	Principal	Reason/Test Coordinator	Area Executive Director
070	*West HS	9-12	274-1197	James Bailey	ACOT/Jane Pratt	Walt Richardson
112	**Beery MS	6-8	491-2810	Richard Orr	Request/Violet Barnett	Tim Ilg
132	Crestview MS	6-8	262-2515	James Osborn	Request/John Holland	Donald Taylor
156	**Everett MS	6-8	299-1345	Frank Foreman	Request/Ruth Lapp	Donald Taylor
202	Linmoor MS	6-8	294-4727	George Rich	Request/Al Woodford	Donald Taylor
225	**Mohawk MS	6-8	228-4381	William Lude	UDP/Roy McClelland	Walt Richardson
242	**Starling MS	6-8	274-8433	Robert Cochrun	Request/Beth Marlor	Walt Richardson
254	Wedgewood	6-8	276-6571	Diane Warner	UDP/James Fugate	Walt Richardson
266	Westmoor	6-8	279-8631	Dan Spivey	UDP/Alene Jones	Walt Richardson
348	Burroughs ES	K, 1-3	274-4500	Keith Rinehart	Request/Bill Stewart	Don Cramer
396	Douglas ES	K, 1-5	252-1166	Catherine Noble	Request/Gean Norman	Edward Lay
398	Linden Park ES	K, 1-5	268-6131	Lois Camealy	Request/Lois Camealy	Edward Lay
410	East Linden ES	K, 1-5	471-9911	Erma Taylor	Request/Jim Kraner	Edward Lay
424	Fair ES	K, 4-5	258-9523	Yvonne Jones	Request/Sarahlynn Jackson	Shirley Mann
466	Georgian Hts.	K, 4-5	276-5371	Fred Burt	UDP/Fred Burt	Don Cramer
502	Kent ES	K, 4-5	252-4997	Jane Leach	Request/Jane Leach	Don Cramer
528	Livingston ES	K, 3-5	444-6806	Robert Pritts	Request/Gordon Morris	Don Cramer
543	Maybury ES	K, 4-5	864-1560	James Roy	Lazarus/James Roy	Shirley Mann
545	**Medary ES	K, 1-3	263-1804	Marilyn Foreman	Request/Sharon Fergeson	Ralph Pryor
575	Ohio ES	K, 4-5	253-8659	Gwendolyn Lane	UDP/Janis Gruenhagen	Don Cramer
583	Pilgrim ES	K, 1-3	252-7415	Lillian Richardson	Request/Pam Innis	Don Cramer
591	Reeb ES	K, 1-3	444-9861	Roger Veley	Request/Carol Rood	Shirley Mann
607	Second ES	K, 4-5	299-1105	William Thrasher	Request/William Thrasher	Ralph Pryor
645	Trevitt ES	K, 4-5	252-4963	Margaret Prillerman	Request/Gwendolyn Wade	Edward Lay
662	West Broad ES	K, 4-5	274-6571	Charles Pfaltzgraf	UDP/Sharon Anderson	Don Cramer
665	Westgate ES	K, 4-5	279-6339	Krista Eisnaugle	UDP/Thea Jones	Don Cramer
674	**Windsor ES	K, 4-5	294-3721	Evelyn Bell	Request/Maija Niemi	Ralph Pryor

*Approximately 60 ninth graders
**Administering the Needs Assessment Survey (NAS)

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07/20/87

Appendix C

NAS Factor Profiles for Elementary Schools

School: Elementary Schools

Date: 09/86

NEEDS ASSESSMENT SURVEY FACTOR PROFILE

	Factor	Item Nos.	No. of Items	N	Response Choice Percent A	B	C	D	E
1	Safe and Orderly Environment	1-5	5	29	2	10	52	29	6
2	Clear School Mission	6-16	11	29	0	10	18	44	29
3	Instructional Leadership	17-30	14	29	6	14	27	32	20
4	High Expectations	31-40	10	29	2	12	39	29	18
5	Opportunity to Learn and Time on Task	41-49	9	29	2	12	30	31	25
6	Frequent Monitoring of Student Progress	50-57	8	29	0	7	18	39	36
7	Home-School Relations	58-67	10	29	11	31	28	22	8

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Appendix D

NAS Factor Profiles for Middle Schools

School: Middle Schools

Date: 09/86

NEEDS ASSESSMENT SURVEY FACTOR PROFILE

	Factor	Item Nos.	No. of Items	N	Response Choice Percent				
					A	B	C	D	E
1	Safe and Orderly Environment	1-5	5	97	2	11	42	33	12
2	Clear School Mission	6-16	11	97	2	12	25	43	19
3	Instructional Leadership	17-30	14	97	11	19	30	25	16
4	High Expectations	31-40	10	97	8	19	37	24	12
5	Opportunity to Learn and Time on Task	41-49	9	97	6	13	36	28	17
6	Frequent Monitoring of Student Progress	50-57	8	96	5	8	17	34	37
7	Home-School Relations	58-67	10	97	15	32	27	20	7

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Appendix E

Graphs of NAS Factor Profiles for Elementary Schools

Needs Assessment Survey Fall, 1986
Factor I Safe and Orderly Environment
Percent of Positive Responses (D+E)
N=29 Overall Elementary Average = 35%

School	N	Pct. Pos. Responses (D+E)	0 10 20 30 40 50 60 70 80 90 100
545 Medary	16	44	|——x
674 Windsor	13	25	x——|

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Needs Assessment Survey Fall, 1986
Factor 2 Clear School Mission
Percent of Positive Responses (D+E)
N=29 Overall Elementary Average = 72%

School	N	Pct. Pos. Responses (D+E)	0 10 20 30 40 50 60 70 80 90 100
545 Medary	16	74	|-x
674 Windsor	13	71	x|

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Needs Assessment Survey Fall, 1986
Factor 3 Instructional Leadership
Percent of Positive Responses (D+E)
N=29. Overall Elementary Average = 53%

School	N	Pct. Pos. Responses (D+E)	0 10 20 30 40 50 60 70 80 90 100
545 Medary	16	56	|—x
674 Windsor	13	47	x——|

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07/20/87

Needs Assessment Survey Fall, 1986
Factor 4 High Expectations
Percent of Positive Responses (D+E)
N=29 Overall Elementary Average = 47%

School	N	Pct. Pos. Responses (D+E)	0 10 20 30 40 50 60 70 80 90 100
545 Medary	16	52	|——x
674 Windsor	13	40	x——|

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Needs Assessment Survey Fall, 1986
Factor 5 Opportunity to Learn and Time on Task
Percent of Positive Responses (D+E)
N=29 Overall Elementary Average = 56%

School	N	Pct. Pos. Responses (D+E)	0 10 20 30 40 50 60 70 80 90 100
545 Medary	16	59	|—x
674 Windsor	13	52	x—|

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07/20/87

Needs Assessment Survey Fall, 1986
Factor 6 Frequent Monitoring of Student Progress
Percent of Positive Responses (D+E)
N=29 Overall Elementary Average = 76%

School	N	Pct. Pos. Responses (D+E)	0 10 20 30 40 50 60 70 80 90 100
545 Medary	16	70	x--·|
674 Windsor	13	81	|—x

65

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Needs Assessment Survey Fall, 1986
Factor 7 Home School Relations
Percent of Positive Responses (D+E)
N=29 Overall Elementary Average = 30%

School	N	Pct. Pos. Responses (D+E)	0 10 20 30 40 50 60 70 80 90 100
545 Medary	16	30	x
674 Windsor	13	30	x

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Appendix F

Graphs of NAS Factor Profiles for Middle Schools

Needs Assessment Survey Fall, 1986
Factor 1 Safe and Orderly Environment
Percent of Positive Responses (D+E)
N=97 Overall Middle School Average = 46%

School	N	Pct. Pos. Responses (D+E)	0 10 20 30 40 50 60 70 80 90 100
112 Beery	24	63	|—————x
156 Everett	13	46	x
225 Mohawk	28	49	|—x
242 Starling	32	29	x————|

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07/20/87

Needs Assessment Survey Fall, 1986
Factor 2 Clear School Mission
Percent of Positive Responses (D+E)
N=97 Overall Middle School Average = 61%

School	N	Pct. Pos. Responses (D+E)	0 10 20 30 40 50 60 70 80 90 100
112 Beery	24	63	|-x
156 Everett	13	51	x——|
225 Mohawk	28	68	|——x
242 Starling	32	60	x|

EVALSRVCS/P619/RPTFIN87
07/20/87

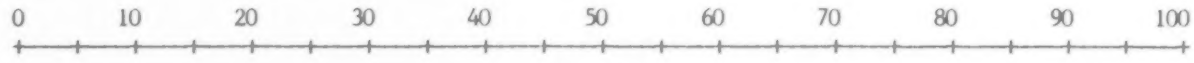
Needs Assessment Survey Fall, 1986
Factor 3 Instructional Leadership
Percent of Positive Responses (D+E)
N=97 Overall Middle School Average = 41%

School	N	Pct. Pos. Responses (D+E)	0 10 20 30 40 50 60 70 80 90 100
112 Beery	24	63	|——————x
156 Everett	13	27	x————|
225 Mohawk	28	40	x|
242 Starling	32	30	x————|

EVALSRVCS/P619/RPTFIN87
07/20/87

Needs Assessment Survey Fall, 1986
Factor 4 High Expectations
Percent of Positive Responses (D+E)
N=97 Overall Middle School Average = 36%

School	N	Pct. Pos. Responses (D+E)



112	Beery	24	43
156	Everett	13	32
225	Mohawk	28	42
242	Starling	32	28

EVALSRVCS/P619/RPTFIN87
07/20/87

Needs Assessment Survey Fall, 1986
Factor 5 Opportunity to Learn and Time on Task
Percent of Positive Responses (D+E)
N=97 Overall Middle School Average = 45%

School	N	Pct. Pos. Responses (D+E)	0 10 20 30 40 50 60 70 80 90 100
112 Beery	24	46	|x
156 Everett	13	48	|—x
225 Mohawk	28	42	x—|
242 Starling	32	45	x

EVALSRVCS/P619/RPTFIN87
07/20/87

Needs Assessment Survey Fall, 1986
Factor 6 Frequent Monitoring of Student Progress
Percent of Positive Responses (D+E)
N=95 Overall Middle School Average = 70%

School	N	Pct. Pos. Responses (D+E)	0 10 20 30 40 50 60 70 80 90 100
112 Beery	23	78	|——x
156 Everett	13	73	|—x
225 Mohawk	28	64	x——|
242 Starling	31	69	x|

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07/20/87

Needs Assessment Survey Fall, 1986
Factor 7 Home School Relations
Percent of Positive Responses (D+E)
N=97 Overall Middle School Average = 27%

School	N	Pct. Pos. Responses (D+E)	0 10 20 30 40 50 60 70 80 90 100
112 Beery	24	32	|——x
156 Everett	13	32	|——x
225 Mohawk	28	22	x——|
242 Starling	32	25	16 x-|

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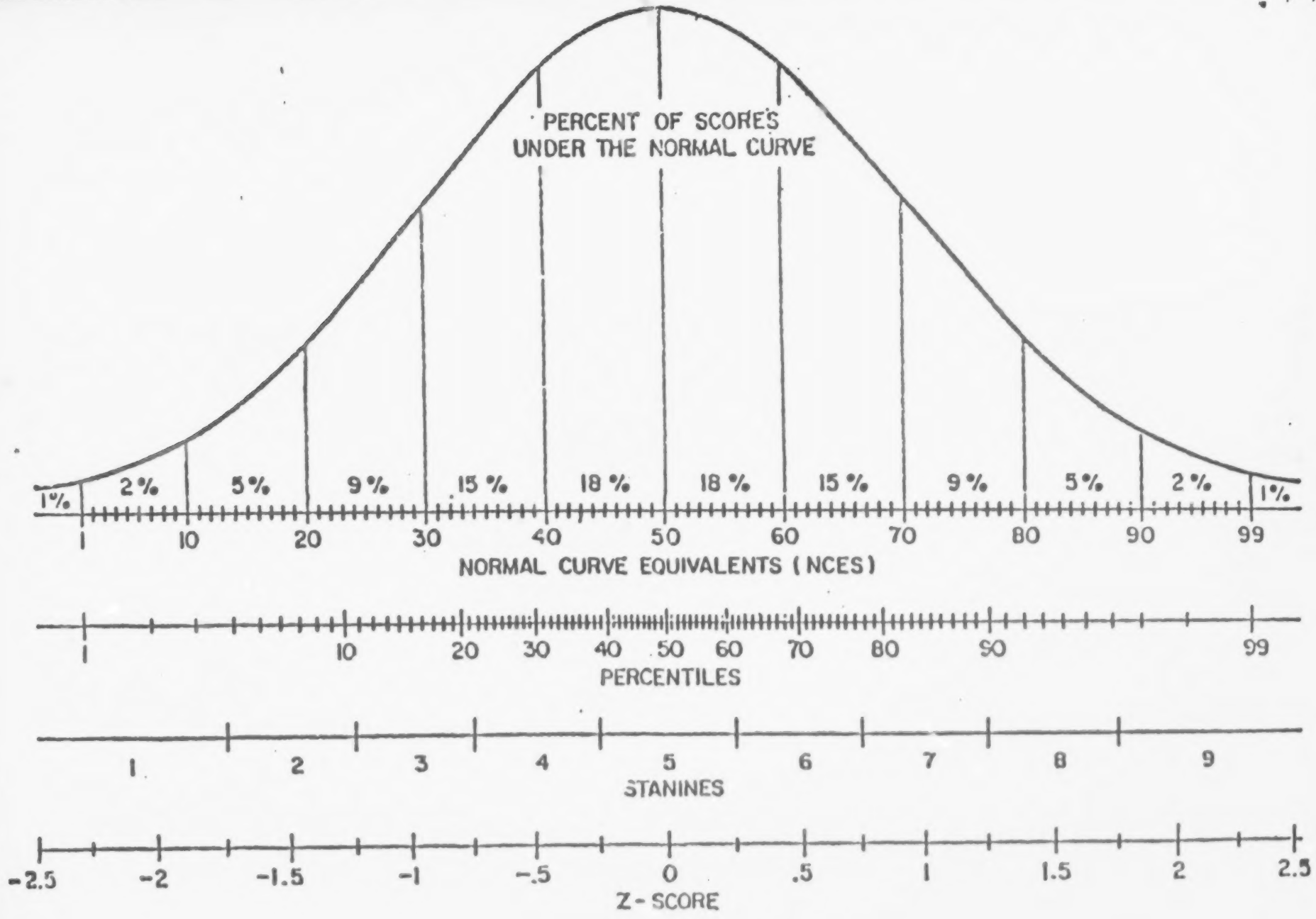
07/20/87

Appendix G

Comparison of Various Scores to the Normal Curve


PERCENT OF SCORES
UNDER THE NORMAL CURVE
1%
2%
5%
9%
15%
18%
18%
15%
9%
5%
2%
1%
1
10
20
30
40
50
60
70
80
90
99
NORMAL CURVE EQUIVALENTS (NCES)
1
10
20
30
40
50
60
70
80
90
99
PERCENTILES
1
2
3
4
5
6
7
8
9
STANINES
-2.5
-2
-1.5
-1
-.5
0
.5
1
1.5
2
2.5
Z-SCORE